displaced by a β-adrenergic receptor agonist SM-11044 with stereoselectivity but not by isoproterenol, norepinephine, epinephrine, serotonine, dopamine or BRL-37344, and not being blocked by propranolol, said polypeptide (1) having an apparent molecular weight of about 30-40 kDa when labeled with ^{125}I-iodocyanopindolol after photoaffinity labeling and separation by electrophoresis and an apparent molecular weight of about 60-80 kDa in Western blot, and (2) generating a fragment having the following formula $DPX_1FFQHRIHX_2FSIFNX_3$ by acidic cleavage, wherein X_1 represents S (SEQ ID No. 5) or X (SEQ ID No. 6), X_2 represents V (SEQ ID No 6) or W (SEQ ID No. 5) and X_3 represents S (SEQ ID No. 5) or H (SEQ ID No. 6)

23. The polypeptide according to claim 22, characterized in that it contains at least SEQ ID No. 1.

24. The polypeptide according to claim 22, characterized in that it consists of SEQ ID No. 13.

25. An isolated and purified nucleic acid sequence, characterized in that it encodes a mammalian receptor as claimed in claim 22.

26. The isolated and purified nucleic acid sequence of claim 25, characterized in that it includes at least SEQ ID No. 2.

27. The isolated and purified nucleic acid sequence of claim 25, characterized in that it consists of SEQ ID No. 14.

28. The purified nucleic acid sequence according to claim 25, characterized in that it hybridizes with SEQ ID No. 3 or SEQ ID No. 4.

29. A cDNA clone, comprising an isolated and purified nucleic acid sequence according to claim 25.

30. A synthetic or non-synthetic nucleotide probe, characterized in that it hybridizes with a nucleic acid according to claim 25, or with its complementary sequence or its corresponding RNA, said probe being unable to hybridize with the genes or the messenger RNA coding for β-adrenergic receptors.

31. A probe according to claim 30, selected from the group consisting of SEQ ID No. 3, SEQ ID No. 4 and SEQ ID No. 7 to SEQ ID No. 12.

32. A primer for amplifying a nucleic acid sequence according to claim 25, selected from the group consisting of SEQ ID No. 7 to SEQ ID no. 12.

33. A recombinant plasmid for cloning and/or expression, containing a nucleic acid sequence according to claim 25, inserted in a cloning site which is non-essential for replication.

34. The recombinant plasmid according to claim 33, further comprising an origin of replication for replication in a host cell, at least one gene whose expression permits selection of said host cell transformed with said plasmid, and a regulatory sequence, including a promoter permitting expression of said nucleic acid sequence in said host cell.

35. The recombinant plasmid according to claim 33, comprising plasmid pcDNA3 into which is inserted, in a multisite linker, SEQ ID No. 2, wherein said recombinant plasmid is deposited as CNCM No. I-1795.

36. A host cell transformed by a recombinant plasmid according to claim 33, comprising the elements of regulation necessary for the expression of said nucleotide sequence in said host cell.

37. The host cell according to claim 36, characterized in that it is a mammalian cell line.

38. An antibody directed specifically against the receptor polypeptide of claim 22, which antibody fails to recognize either known α or β-adrenergic, or serotonine, or dopamine receptors.

39. A method for assaying a substance for agonist or antagonist activity towards a receptor polypeptide of claim 22, which method comprises:

- placing the substance in contact with tissue membrane proteins or a transformed host cell expressing said receptor polypeptide under conditions which permit binding between said polypeptide binding sites and an agonist or an antagonist thereto and
- measuring an appropriate transduction signal.

40. A process for studying the binding affinity of a compound for a receptor polypeptide of claim 22, which process comprises:

- transforming a host cell by an expression vector comprising a nucleotide sequence coding for said receptor polypeptide,

- culturing said transformed host cell under conditions which permit the expression of said receptor polypeptide encoded by said nucleotide sequence and the transfer of the expressed receptor polypeptide to the membrane of the said transformed host cell so that transmembrane sequences of said receptor polypeptide are embedded in the cell membranes of the transformed host cell;

- placing said transformed host cell in contact with said compound and

- measuring the quantity of said compound bound to said receptor polypeptide.

41. A process for studying the binding affinity of a compound for a receptor polypeptide of claim 22, which process comprises:

- extracting membrane proteins corresponding to said receptor polypeptide from appropriate tissue or cells,

- placing said membrane proteins in contact with said compound and

- measuring the quantity of said compound bound to said receptor polypeptide.

42. Method of labeling a receptor polypeptide of claim 22, which method comprises:

- extracting membrane proteins from a tissue containing said receptor polypeptide,

- labeling said membrane proteins with [^{125}I]-ICYP-diazirine or another appropriate marker under blockade of α, β1, β2, β3-AR and serotonine receptors,

- separating said labeled proteins by preparative SDS-PAGE electrophoresis and

- extracting the radioactive band.